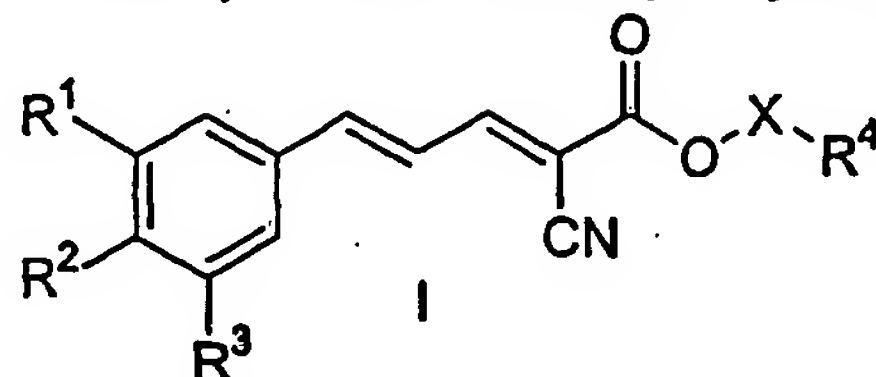


Claims:

1. A compound of Formula I, or a salt, solvate, or hydrate thereof



5 wherein

R^1 , R^2 and R^3 are each independently selected from H, OH, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkyl CO_2 , NH_2 , $NH-C_{1-6}$ alkyl, $N(C_{1-6}$ alkyl)(C_{1-6} alkyl), C_{1-6} alkyl($C=O$) NH , C_{1-6} alkyl($C=O$) $N(C_{1-6}$ alkyl), SH , $S-C_{1-6}$ alkyl, NO_2 , CF_3 , OCF_3 and halo;

R^4 is unsubstituted Ar, or Ar substituted with 1-4 substituents, independently selected
10 from C_{1-6} alkyl, C_{1-6} alkoxy, and halo;

X is selected from $(CH_2CH_2O)_n$ and $(CH_2)_n$, and
 $n = 1-4$.

2. The compound according to claim 1, wherein

R^1 , R^2 and R^3 are each independently selected from H, OH, C_{1-4} alkyl, C_{1-4} alkoxy,
15 C_{1-4} alkyl CO_2 , NH_2 , $NH-C_{1-4}$ alkyl, $N(C_{1-4}$ alkyl)(C_{1-4} alkyl), C_{1-4} alkyl($C=O$) NH ,
 C_{1-4} alkyl($C=O$) $N(C_{1-4}$ alkyl), NO_2 , CF_3 , OCF_3 , and halo;

R^4 is C_{1-6} alkyl,

X is $(CH_2CH_2O)_n$, and
 $n = 1-4$.

- 20 3. The compound according to claim 1 or 2, wherein R^1 , R^2 , and R^3 are each
independently selected from H, OH, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkyl(CO)O, NH_2 ,
 $NH-C_{1-4}$ alkyl, $N(C_{1-4}$ alkyl)(C_{1-4} alkyl), C_{1-4} alkyl($C=O$) NH ,
 C_{1-4} alkyl($C=O$) $N(C_{1-4}$ alkyl), NO_2 , CF_3 , OCF_3 , and halo.

4. The compound according to claim 3, wherein R^1 , R^2 and R^3 are each
25 independently selected from H, OH, OCH_3 , CH_3CO_2 , NH_2 , $N(CH_3)_2$, CH_3CONH , and
 NO_2 .

5. The compound according to claim 4, wherein R^1 , R^2 , and R^3 are each
independently selected from H, OH, and OCH_3 .

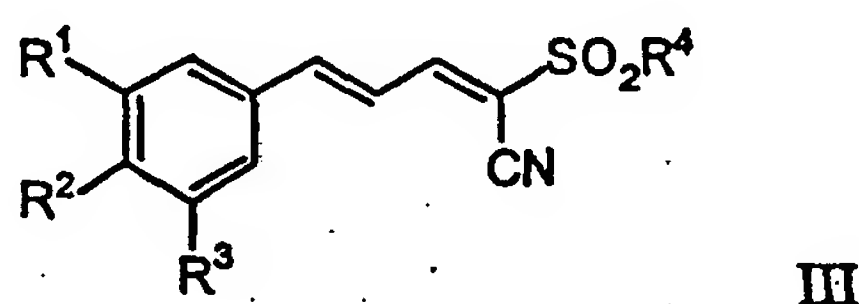
6. The compound according to claim 1, wherein R^4 is unsubstituted Ar.
7. The compound according to claim 6, wherein R^4 is phenyl.
8. The compound according to claim 2, wherein R^4 is methyl or ethyl.
9. The compound according to claim 8, wherein R^4 is methyl.
- 5 10. The compound according to claim 9, wherein n is 2-3.
11. The compound according to claim 10, wherein n is 3.
12. A compound selected from:
 - 2-Cyano-5-(4-hydroxy-3,5-dimethoxyphenyl)-penta-2E,4E-dienoic acid benzyl ester (CRIX-38)
 - 10 2-Cyano-5-(3,4-dihydroxyphenyl)-penta-2E,4E-dienoic acid benzyl ester (CRIX-39)
 - 2-Cyano-5-(3,4-dihydroxyphenyl)-penta-2E,4E-dienoic acid 2-[2-(2-methoxyethoxy)ethoxy] ethyl ester (CRIV-42)
 - 2-Cyano-5-(4-hydroxy-3,5-dimethoxyphenyl)-penta-2E,4E-dienoic acid 2-[2-(2-methoxyethoxy)ethoxy]ethyl ester (CRIV-46); and
 - 15 2-Cyano-5-(4-hydroxy-3-methoxyphenyl)-penta-2E,4E-dienoic acid benzyl ester (CRIX-79).
13. A composition comprising a compound according to any one of claims 1 to 12 in admixture with a pharmaceutically acceptable diluent or carrier.
14. A use of a compound according to any of claims 1-12, and/or a composition
20 according to claim 13, to prepare a medicament to modulate cell proliferation.
15. The use according to claim 14, for inhibiting cell proliferation.
16. The use according to claim 15, wherein the cell is a malignant hematopoietic cell.

17. A method of modulating cell proliferation comprising administering an effective amount of a compound according to any of claims 1-12, and/or a composition according to claim 13, to a cell or animal in need thereof.

18. The method according to claim 17, for inhibiting cell proliferation.

19. The method according to claim 18 wherein the cell is a malignant hematopoietic cell.

20. A compound of Formula III, or a salt, solvate, or hydrate thereof:



wherein

10 R¹, R² and R³ are each independently selected from H, OH, C₁₋₆alkyl, C₁₋₆alkoxy, C₁₋₆alkylCO₂, NH₂, NH-C₁₋₆alkyl, N(C₁₋₆alkyl)(C₁₋₆alkyl), C₁₋₆alkyl(C=O)NH, C₁₋₆alkyl(C=O)N(C₁₋₆alkyl), SH, S-C₁₋₆alkyl, NO₂, CF₃, OCF₃, and halo; and R⁴ is selected from C₁₋₆alkyl, phenyl and pyridyl, wherein phenyl and pyridyl are unsubstituted or substituted with 1-4 substituents, independently selected from C₁₋₆alkyl, C₁₋₆alkoxy and halo, with the provisos that when R¹ and R³ are both H and R⁴ is unsubstituted phenyl, R² is not H, Cl, or OCH₃; when R¹ and R² are both H and R⁴ is unsubstituted phenyl, R³ is not NO₂; and when R¹ and R³ are both H and R⁴ is CH₃, R² is not N(CH₃)₂.

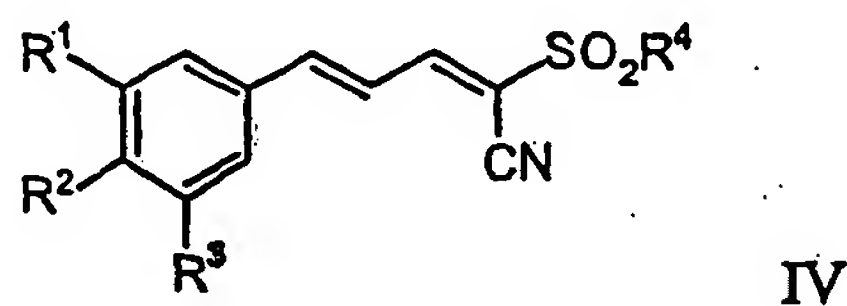
21. The compound according to claim 1, wherein R¹, R² and R³ are each independently selected from H, OH, C₁₋₄alkyl, C₁₋₄alkoxy, C₁₋₄alkylCO₂, NH₂, NH-C₁₋₄alkyl, N(C₁₋₄alkyl)(C₁₋₄alkyl), C₁₋₄alkyl(C=O)NH, C₁₋₄alkyl(C=O)N(C₁₋₄alkyl), NO₂, CF₃, OCF₃, and halo.

22. The compound according to claim 21, R¹, R² and R³ are each independently selected from H, OH, OCH₃, CH₃CO₂, NH₂, N(CH₃)₂, CH₃CONH, and NO₂.

23. The compound according to claim 20, wherein R⁴ is selected from C₁₋₄alkyl, phenyl, and pyridyl.

24. The compound according to claim 23, wherein R⁴ is selected from CH₃ and phenyl.
25. The compound according to claim 24, wherein R⁴ is unsubstituted phenyl.
26. The compound according to claim 20, wherein phenyl and pyridyl are unsubstituted or substituted with 1-3 substituents, independently selected from C₁₋₄alkyl, C₁₋₄alkoxy, and halo.
27. The compound according to claim 24, wherein phenyl is unsubstituted or substituted with 1-2 substituents, independently selected from C₁₋₄alkyl, C₁₋₄alkoxy, and halo.
28. The compound according to claim 20, wherein at least one of R¹, R² and R³ is OH while R⁴ is selected from unsubstituted phenyl and phenyl substituted with 1-4 substituents, independently selected from C₁₋₆alkyl, C₁₋₆alkoxy, and halo.
29. A compound selected from:
- 2-Benzenesulfonyl-5-(3,4-dihydroxyphenyl)-penta-2E,4E-dienitrile (CRVIII-33),
- 2-Benzenesulfonyl-5-(4-hydroxy-3,5-dimethoxyphenyl)-penta-2E,4E-dienitrile (CRVIII-34),
- 2-Benzenesulfonyl-5-(4-nitrophenyl)-penta-2E,4E-dienitrile (CRVIII-35),
- 5-(4-Acetoxy-3-methoxyphenyl)-2-benzenesulfonyl-penta-2E,4E-dienitrile (CRVIII-49)
- 5-(3,4-Dihydroxyphenyl)-2-(pyridine-2-sulfonyl)-penta-2E,4E-dienitrile (CRVIII-50),
- 2-(4-Chlorobenzenesulfonyl)-5-(3,4-dihydroxyphenyl)-penta-2E,4E-dienitrile (CRVIII-51),
- 5-(3,4-Dihydroxyphenyl)-2-(toluene-4-sulfonyl)-penta-2E,4E-dienitrile (CRVIII-52), and
- 5-(3,4-Dihydroxyphenyl)-2-methanesulfonyl-penta-2E,4E-dienitrile (CRVIII-53).
30. A composition comprising a compound according to any one of claims 20 to 29 in admixture with a pharmaceutically acceptable diluent or carrier.

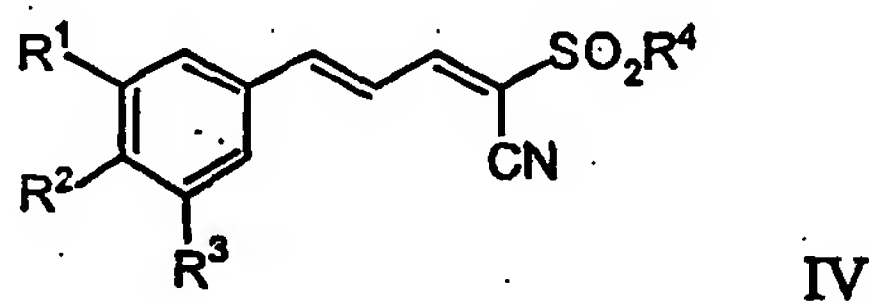
31. A composition comprising, in admixture with a pharmaceutically acceptable diluent or carrier, a compound of Formula IV, or a salt, solvate, or hydrate thereof



wherein

- 5 R^1 , R^2 and R^3 are each independently selected from H, OH, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkylCO₂, NH₂, NH- C_{1-6} alkyl, N(C_{1-6} alkyl)(C_{1-6} alkyl), C_{1-6} alkyl(C=O)NH, C_{1-6} alkyl(C=O)N(C_{1-6} alkyl), SH, S- C_{1-6} alkyl, NO₂, CF₃, OCF₃, and halo; and R^4 is selected from C_{1-6} alkyl, phenyl and pyridyl, wherein phenyl and pyridyl are unsubstituted or substituted with 1-4 substituents, independently selected from
- 10 C_{1-6} alkyl, C_{1-6} alkoxy, and halo.

32. A use to prepare a medicament to modulate cell proliferation of a composition according to claim 30 or 31, and/or a compound capable of modulating cell proliferation of Formula IV, and/or a salt, solvate or hydrate thereof:



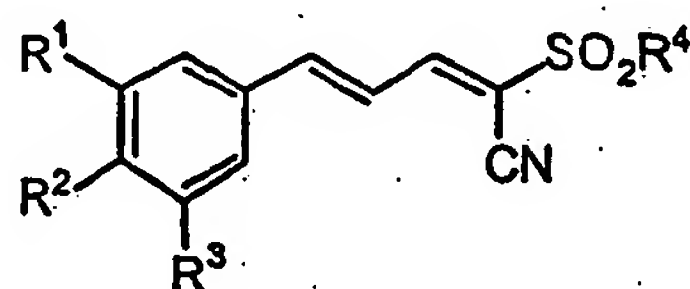
15 wherein

- R^1 , R^2 and R^3 are each independently selected from H, OH, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkylCO₂, NH₂, NH- C_{1-6} alkyl, N(C_{1-6} alkyl)(C_{1-6} alkyl), C_{1-6} alkyl(C=O)NH, C_{1-6} alkyl(C=O)N(C_{1-6} alkyl), SH, S- C_{1-6} alkyl, NO₂, CF₃, OCF₃, and halo; and R^4 is selected from C_{1-6} alkyl, phenyl, and pyridyl, wherein phenyl and pyridyl are
- 20 unsubstituted or substituted with 1-4 substituents, independently selected from C_{1-6} alkyl, C_{1-6} alkoxy, and halo.

33. The use according to claim 13, for inhibiting cell proliferation.

34. The use according to claim 14 wherein the cell is a malignant hematopoietic cell.

35. A method of modulating cell proliferation comprising administering to a cell or animal in need thereof an effective amount of a composition according to any of claims 30 and 31, and/or a compound capable of modulating cell proliferation of Formula IV, or a salt, solvate or hydrate thereof:



IV

wherein

R¹, R² and R³ are each independently selected from H, OH, C₁₋₆alkyl, C₁₋₆alkoxy, C₁₋₆alkylCO₂, NH₂, NH-C₁₋₆alkyl, N(C₁₋₆alkyl)(C₁₋₆alkyl), C₁₋₆alkyl(C=O)NH, C₁₋₆alkyl(C=O)N(C₁₋₆alkyl), SH, S-C₁₋₆alkyl, NO₂, CF₃, OCF₃, and halo; and

R⁴ is selected from C₁₋₆alkyl, phenyl and pyridyl, wherein phenyl and pyridyl are unsubstituted or substituted with 1-4 substituents, independently selected from C₁₋₆alkyl, C₁₋₆alkoxy, and halo.

36. The method according to claim 35, for inhibiting cell proliferation.

37. The method according to claim 36, wherein the cell is a malignant

hematopoietic cell.

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